



Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M (TM) GLASS BUBBLES, TYPES K and S

MANUFACTURER: 3M

DIVISION: SMD - Energy Markets - Filtration

ADDRESS: 3M Center
St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 04/10/2006

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Document Group: 10-4852-9

Product Use:

Specific Use: Lightweight Filler

SECTION 2: INGREDIENTS

Ingredient

SODA LIME BOROSILICATE GLASS
AMORPHOUS SILICA

C.A.S. No.

65997-17-3
7631-86-9

% by Wt

97 - 100
< 3

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Low density fine powder (< 200 microns)

Odor, Color, Grade: white, odorless

General Physical Form: Solid

Immediate health, physical, and environmental hazards:

May cause target organ effects.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Skin Contact:

Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Prolonged or repeated exposure may cause:

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

SECTION 4: FIRST AID MEASURES**4.1 FIRST AID PROCEDURES**

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Wash affected area with soap and water. If signs/symptoms develop, get medical attention.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES**5.1 FLAMMABLE PROPERTIES**

Autoignition temperature	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>

5.2 EXTINGUISHING MEDIA

Non-combustible. Choose material suitable for surrounding fire. Material will not burn.

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: No unusual fire or explosion hazards are anticipated.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Ventilate the area with fresh air. Collect as much of the spilled material as possible. Use wet sweeping compound or water to avoid dusting. Sweep up. Clean up residue. Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. For industrial or professional use only.

7.2 STORAGE

Store away from oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use with appropriate local exhaust ventilation. Conduct air monitoring to determine adequacy of ventilation.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

The following eye protection(s) are recommended: Safety Glasses with side shields.

8.2.2 Skin Protection

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Neoprene, Nitrile Rubber.

8.2.3 Respiratory Protection

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with P95 particulate filters. Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
SODA LIME BOROSILICATE GLASS	3M	TWA, as dust	10 mg/m3	
AMORPHOUS SILICA	CMRG	TWA, as respirable dust	3 mg/m3	

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Low density fine powder (< 200 microns)
Odor, Color, Grade:	white, odorless
General Physical Form:	Solid
Autoignition temperature	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>
Boiling point	<i>Not Applicable</i>
Density	0.1 g/ml - 0.6 g/ml
Vapor Density	<i>Not Applicable</i>
Vapor Pressure	<i>Not Applicable</i>
Specific Gravity	0.1 - 0.6
Melting point	<i>No Data Available</i>
Solubility in Water	Negligible
Evaporation rate	<i>Not Applicable</i>
Volatile Organic Compounds	<i>Not Applicable</i>
Percent volatile	< 0.5 % weight
VOC Less H2O & Exempt Solvents	<i>Not Applicable</i>
Viscosity	<i>Not Applicable</i>

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance
None known.

Condition
Not Specified

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Reclaim if feasible. For quantities <100 lbs. (50kg): dispose of waste product in a sanitary landfill. For larger quantities:

Dispose of waste product in a facility permitted to accept chemical waste.

EPA Hazardous Waste Number (RCRA): Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

70-0700-7938-2, 70-0701-1952-7, 70-0701-8213-7, 70-0701-9409-0, 70-0701-9423-1, 70-0703-2625-4, 70-0703-2736-9, 70-0703-2737-7, 70-0703-2749-2, 70-0703-2815-1, 70-0703-2816-9, 70-0703-2817-7, 70-0703-3031-4, 70-0704-1512-3, 70-0704-1615-4, 70-0704-1616-2, 70-0704-1665-9, 70-0704-2949-6, 70-0704-2950-4, 70-0704-2951-2, 70-0704-2952-0, 70-0704-2953-8, 70-0704-2955-3, 70-0704-2956-1, 70-0704-2957-9, 70-0704-2958-7, 70-0704-2959-5, 70-0704-2961-1, 70-0704-2962-9, 70-0704-2964-5, 70-0704-2965-2, 70-0704-2966-0, 70-0704-2967-8, 70-0704-2968-6, 70-0704-2970-2, 70-0704-2971-0, 70-0704-5810-7, 70-0704-5811-5, 70-0704-5812-3, 70-0704-5813-1, 70-0704-5814-9, 70-0704-5816-4, 70-0704-5817-2, 70-0704-5818-0, 70-0704-5819-8, 70-0704-5820-6, 70-0704-5822-2, 70-0704-5823-0, 70-0704-5825-5, 70-0704-5826-3, 70-0704-5908-9, 70-0704-5929-5, 70-0704-8397-2, 70-0704-8401-2, 70-0704-8402-0, 70-0704-8403-8, 70-0704-8404-6, 70-0704-8405-3, 70-0704-8406-1, 70-0704-8407-9, 70-0704-8408-7, 70-0704-8409-5, 70-0704-8410-3, 70-0704-8538-1, 70-0704-8764-3, 70-0705-2064-1, 70-0705-7728-6, 70-0705-7729-4, 70-0705-7730-2, 70-0705-7731-0, 70-0705-7732-8, 70-0705-7733-6, 70-0705-7734-4, 70-0705-7735-1, 70-0705-7736-9, 70-0705-7864-9, 70-0705-7865-6, 70-0705-7910-0, 70-0705-7938-1, 70-0705-7971-2, 70-0705-7996-9, 70-0706-6017-3, 70-0706-6148-6, 70-0706-6149-4, 70-0707-0601-8, 70-0707-4203-9, 70-0707-4208-8, 70-0707-4394-6, 70-0707-5008-1, 70-0707-5123-8, 75-0299-0523-1, 75-0299-1726-9, 75-5410-0040-4, 98-0212-0414-8, 98-0212-1022-8, 98-0212-1023-6, 98-0212-1024-4, 98-0212-1025-1, 98-0212-1167-1, 98-0212-2725-5, 98-0212-2726-3, 98-0212-2727-1, 98-0212-2743-8, 98-0212-2744-6, 98-0212-2745-3, 98-0212-2771-9, 98-0212-2778-4, 98-0212-2828-7, 98-0212-2829-5, 98-0212-2830-3, 98-0212-2906-1, 98-0212-2907-9, 98-0212-2956-6, 98-0212-2958-2, 98-0212-2972-3, 98-0212-3037-4, 98-0212-3053-1, 98-0212-3054-9, 98-0212-3055-6, 98-0212-3056-4, 98-0212-3057-2, 98-0212-3060-6, 98-0212-3071-3, 98-0212-3072-1, 98-0212-

3195-0, 98-0212-3206-5, 98-0212-3207-3, 98-0212-3208-1, 98-0212-3209-9, 98-0212-3210-7, 98-0212-3266-9, 98-0212-3280-0, 98-0212-3281-8, 98-0212-3290-9, 98-0212-3315-4, 98-0212-3316-2, 98-0212-3317-0, 98-0212-3318-8, 98-0212-3319-6, 98-0212-3320-4, 98-0212-3321-2, 98-0212-3322-0, 98-0212-3323-8, 98-0212-3350-1, 98-0212-3351-9, 98-0212-3355-0, 98-0212-3356-8, FS-9000-2140-3, FS-9000-2146-0, FS-9000-2572-7, FS-9000-2590-9, FS-9100-0397-9, FS-9100-0398-7, FS-9100-0410-0, FS-9100-0411-8, FS-9100-0414-2, FS-9100-0415-9, FS-9100-0435-7, FS-9100-0437-3, FS-9100-0441-5, FS-9100-0444-9, FS-9100-0623-8, FS-9100-0700-4, FS-9100-0701-2, FS-9100-0746-7, FS-9100-0805-1, FS-9100-0835-8, FS-9100-0836-6, FS-9100-0837-4, FS-9100-0838-2, FS-9100-0839-0, FS-9100-0840-8, FS-9100-0841-6, FS-9100-0843-2, FS-9100-0846-5, FS-9100-0882-0, FS-9100-1029-7, FS-9100-1463-8, FS-9100-1642-7, FS-9100-1717-7, FS-9100-1743-3, FS-9100-1950-4, FS-9100-2363-9, FS-9100-2364-7, FS-9100-2365-4, FS-9100-2366-2, FS-9100-2398-5, FS-9100-2425-6, FS-9100-2629-3, FS-9100-2707-7, FS-9100-2708-5, FS-9100-2709-3, FS-9100-2710-1, FS-9100-2711-9, FS-9100-2757-2, FS-9100-2888-5, FS-9100-2889-3, FS-9100-2984-2, FS-9100-3019-6, FS-9100-3020-4, FS-9100-3021-2, FS-9100-3085-7, ZF-9100-1831-6

Not regulated per U.S. DOT, IATA or IMO.

These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M's transportation classifications are based on product formulation, packaging, 3M policies and 3M's understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling, or marking requirements. The original 3M package is certified for U.S. ground shipment only. If you are shipping by air or ocean, the package may not meet applicable regulatory requirements.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

ADDITIONAL INFORMATION

This product is an article as defined by TSCA, EINECS, CDSL, MITI, KECI, AICS, PICCS and CICS regulations, and is exempt from chemical inventory listing requirements. Korea and China also require product registration.

This material is not DOT regulated.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 1 Flammability: 0 Reactivity: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 1 Flammability: 0 Reactivity: 0 Protection: X - See PPE section.

Hazardous Material Identification System (HMIS(r)) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS(r) ratings are to be used with a fully implemented HMIS(r) program. HMIS(r) is a registered mark of the National Paint and Coatings Association (NPCA).

Revision Changes:

Section 14: ID Number(s) was modified.

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